

## **REMARKS**

### **I) Applicant's Response to the 35 U.S.C. §§ 101 and 112 Rejections**

Applicant has amended the claims to overcome the Examiner's 35 U.S.C. §§ 101 and 112 rejections. Among other things, all claims contain a "one or more central processing units" limitation overcoming the 35 U.S.C. § 101 rejections. Please see, *In re Bilski*, 545 F. 3d 943 (Fed. Cir. 2009). Further, Applicant has amended the claims as suggested by the Examiner to overcome the 35 U.S.C. § 112 rejections.

### **II) Applicant's Response to the 35 U.S.C. § 103 Rejections**

It is well settled that the PTO "bears the initial burden of presenting a prima facie case of unpatentability...However, when a prima facie case is made, the burden shifts to the applicant to come forward with evidence and/or argument supporting patentability." *In re Glaug*, 283 F. 3d 1335, 1338 (Fed. Cir. 2002). Rebuttal evidence is "merely a showing of facts supporting the opposite conclusion." *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Evidence rebutting a prima facie case of obviousness can include: "evidence of unexpected results," *Pfizer, Inc. v. Apotex, Inc.*, 480 F. 3d 1348, 1369 (Fed. Cir. 2007), evidence "that the prior art teaches away from the claimed invention in any material respect," *In re Peterson*, 315 F. 3d 1325, 1331 (Fed. Cir. 2003), and evidence of secondary consideration, such as commercial success and long-felt but unresolved needs, *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F. 3d 1339, 1359 (Fed. Cir. 1999). When a patent applicant puts forth rebuttal evidence, the Board must consider that evidence. See *In re Soni*, 54 F. 3d 746, 750 (Fed. Cir. 1995) (stating that "all evidence of nonobviousness must be considered when assessing patentability"); *In re Sernaker*, 702 F. 2d 989, 996 (Fed. Cir. 1983) ("if however, a patent applicant presents evidence relating to these secondary considerations, the board must always consider such evidence in connection with the determination of obviousness."). *In re Sullivan*, 498 F. 3d 1345, 1351 (Fed. Cir. 2007).

#### **1) Independent Claim 1 and the Claims Depending Therefrom**

Among other things, amended independent claim 1 requires "grouping a first and a second object in the predetermined set of objects to define a first binary object." None of the

references, either individually or in combination, relied on by the Examiner to reject independent claim 1 teach or remotely suggest all current limitations of independent claim 1. For example, Fisette does not disclose a binary object, i.e., the combination of two objects into a single object to be calculated. And because Fisette does not disclose, teach or remotely suggest a binary object, Fisette is an improper evidentiary foundation for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Fisette is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 1 is in condition for allowance. Because independent claim 1 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 1 are also in condition for allowance.

2) Independent Claim 10 and the Claims Depending Therefrom

Among other things, amended independent claim 10 requires "changing the reaction values in response to force for at least one object to provide a set of adjusted reaction values." None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 10 teach or remotely suggest all current limitations of independent claim 10. For example, Son does not disclose changing the reaction values in response to force for at least one object to provide a set of adjusted reaction values, whereas Applicant's invention calculates reaction values dynamics describing the object's response to force. In short, Son does not teach that objects change in response to force. Because Son does not disclose, teach or remotely suggest objects changing in response to force, Son is an improper evidentiary foundation for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Son is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 10 is in condition for allowance. Because independent

claim 10 is in condition for allowance, under *In re Fine*, dependent claims flowing from independent claim 10 are also in condition for allowance.

3) Independent Claim 16 and the Claims Depending Therefrom

Among other things, amended independent claim 16 requires “grouping the objects in the predetermined set of objects into two binary objects to define a first binary object and a second binary object.” None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 16 teach or remotely suggest all current limitations of independent claim 16. For example, Fisette does not disclose a binary object, i.e., the combination of two objects into a single object to be calculated. And because Fisette does not disclose, teach or remotely suggest a binary object, Fisette is an improper evidentiary foundation for the Examiner’s 35 U.S.C. § 103 rejection. Therefore, since Fisette is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 16 is in condition for allowance. Because independent claim 16 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 16 are also in condition for allowance.

4) Independent Claim 25 and the Claims Depending Therefrom

Among other things, amended independent claim 25 requires “creating a nested grouping of a plurality of binary objects from the objects in the set, at least one binary object containing two or more links.” None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 25 teach or remotely suggest all current limitations of independent claim 25. For example, Fisette does not disclose a binary object, i.e., the combination of two objects into a single object to be calculated. And because Fisette does not disclose, teach or remotely suggest a binary object, Fisette is an improper evidentiary foundation

for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Fiset is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 25 is in condition for allowance. Because independent claim 25 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 25 are also in condition for allowance.

5) Independent Claim 34 and the Claims Depending Therefrom

Among other things, amended independent claim 34 requires "assigning at least one link weight to each of the links in the predetermined set of objects." None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 34 teach or remotely suggest all current limitations of independent claim 34. For example, Baraff is silent regarding any link weight. Because Baraff does not disclose, teach or remotely suggest a link weight, Baraff is an improper evidentiary foundation for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Baraff is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 34 is in condition for allowance. Because independent claim 34 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 34 are also in condition for allowance.

6) Independent Claim 39 and the Claims Depending Therefrom

Among other things, amended independent claim 39 requires "assigning at least one link weight to each of the links in the predetermined set of objects." None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 39 teach or remotely suggest all current limitations of independent claim 39. For example, Baraff is silent regarding any link weight. Because Baraff does not disclose, teach or remotely suggest a link

weight, Baraff is an improper evidentiary foundation for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Baraff is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 39 is in condition for allowance. Because independent claim 39 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 39 are also in condition for allowance.

7) Independent Claim 45 and the Claims Depending Therefrom

Among other things, amended independent claim 45 requires "a binary division unit having logic operable to create a nested grouping of a plurality of binary objects from the objects in the set." None of the references, either individually or in combination, relied on by the Examiner to reject independent claim 45 teach or remotely suggest all current limitations of independent claim 45. For example, Fisette does not disclose a binary object, i.e., the combination of two objects into a single object to be calculated. And because Fisette does not disclose, teach or remotely suggest a binary object, Fisette is an improper evidentiary foundation for the Examiner's 35 U.S.C. § 103 rejection. Therefore, since Fisette is an improper evidentiary foundation, the Examiner has failed to meet the prima facie 35 U.S.C. § 103 burden mandated by *In re Sullivan* and independent claim 45 is in condition for allowance. Because independent claim 45 is in condition for allowance, under *In re Fine*, 837 F. 2d 1071, 1076 (Fed. Cir. 1988), dependent claims flowing from independent claim 45 are also in condition for allowance.

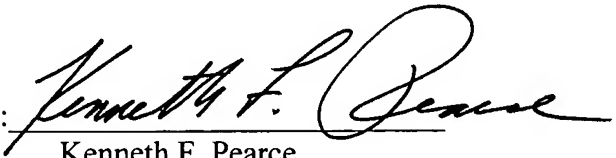
**CONCLUSION**

For at least the facts, law and reason set forth above, all pending claims are in condition for allowance. Applicant has fully traversed all pending rejections averred by the Examiner.

Pursuant to 37 C.F.R. §§ 1.121, the required copies of the amended claims accompany Applicant's Response to the First Office Action. In accordance with 37 C.F.R. § 1.111, Request for Reconsideration is respectfully solicited, as Applicant advances his case toward a patentable conclusion. Applicant believes his Application is in condition for allowance and respectfully request the same in accordance with Title 35 of the United States Code.

Respectfully submitted,

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